AMENDMENTS TO THE SPECIFICATION:

Please replace the paragraph beginning at page 1, line 2 (paragraph [0001] in corresponding the U.S. patent application publication, No. 2002/0058168), with the following rewritten paragraph:

This application is a continuation of U.S. Patent Application Serial No. 09/521,744, filed March 9, 2000, **now U.S. Patent No. 6,416,895 issued July 9, 2002,** entitled "Method And Apparatus for Humidifying and Adjusting the Temperature of a Reactant Stream for a Solid Polymer Fuel Cell". The '744 application is, in turn, a continuation of U.S. Patent Application Serial No. 09/108,156, filed June 30, 1998, now U.S. Patent No. 6,106,964 issued August 22, 2000, also entitled "Method And Apparatus for Humidifying and Adjusting the Temperature of a Reactant Stream for a Solid Polymer Fuel Cell". The '156 application is, in turn, related to and claimed priority benefits from U.S. Provisional Patent Application Serial No. 60/051,356, filed June 30, 1997, also entitled "Method And Apparatus for Humidifying and Adjusting the Temperature of a Reactant Stream for a Solid Polymer Fuel Cell". Each of the '744, '156 and '356 applications is hereby incorporated by reference herein in its entirety.

Please replace the paragraph beginning at page 22, line 3 (paragraph [0054] in corresponding the U.S. patent application publication), with the following rewritten paragraph:

Without being bound by theory, we have found that it can be preferable to select a CHHE design and system operating parameters having a specific relationship between the residence time and diffusion time. Herein, the dimensionless parameter R for a given chamber in a CHHE is defined as the ratio of residence time divided by diffusion time for a water molecule in that chamber. For a chamber comprising n channels with dimensions of 1, w, and d for channel length, width and depth, respectively, the diffusion time in that chamber is given by ~~d.sup.2 /D~~ $\underline{d^2/D}$ where D is the diffusivity of water in air ~~(0.22 cm.sup.2 / second)~~ $\underline{(0.22\ cm^2/second)}$. The flow in the chamber (volume per unit time) is generally laminar in the range of interest and is denoted by V here. The residence time in that chamber is then given by (n*1*w*d)N. R then is given by (D*n*1*w)/(V*d).

Please replace the paragraph beginning at page 22, line 22 (paragraph [0055] in the corresponding U.S. patent application publication), with the following rewritten paragraph:

To obtain the greatest flux of water through the membrane in certain CHHEs, the ratio R for the flows in the chambers was preferably found to be between about 0.75 and 3. The water flux drops off sharply for R values below this range. Above this range, the observed flux may increase but only slightly. (Note that in FIG. 8 following, the observed flux appears to decrease slightly for R values greater than 1 over the measured range. Generally however, ~~R~~ **the**

flux can be expected to increase somewhat above **R** values of 1. This has been observed in other situations. Again however, the increase is not as pronounced as it is below about 0.75.) However, larger R values imply greater pressure drops in the chamber channels. In turn, greater pressure drops imply a need for a higher pressure gas supply. This is generally undesirable and can be an unacceptable requirement for portable fuel cell applications operating near ambient pressures. Further, a need for a higher pressure air supply can result in a corresponding increase in the parasitic power required to compress the air. Thus, as a practical consideration, it can be desirable for the system to have R values for each flow in each chamber to be in the range of about 0.75 to 3.

Please replace the paragraph beginning at page 37, line 1 (paragraph [0086] in the corresponding U.S. patent application publication), with the following rewritten paragraph:

A perfluorosulfonic acid membrane sold under the trademark NAFION 117® (equivalent weight 1100, thickness 7 mils) was used as the membrane. The active area (that is, the area available for water transport which doesn't include the area masked by the supporting ribs) of the membrane was about ~~90 cm.sup.2 (14 in.sup.2)~~ **90 cm^2 (14 in^2)**. The length, width, and depth of the flow channels were about 60, 0.78 and 0.25 cm (22, 0.31, and 0.1 inches), respectively.